



**METROPOLITAN  
TRANSPORTATION  
COMMISSION**

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Deputy Executive Director

**BAY BRIDGE DESIGN TASK FORCE**  
**Wednesday, January 13, 1998**  
**1 p.m.**  
**Joseph P. Bort MetroCenter Auditorium**  
**101 Eighth Street**  
**Oakland, California 94607**

**Chairperson:** Mary King  
**Members:** Sharon Brown  
Mark DeSaulnier  
Elihu Harris  
Tom Hsieh  
Jon Rubin  
Angelo Siracusa  
**Staff Liaison:** Steve Heminger

**FINAL AGENDA**

1. Welcome and introductions - Mary King, Chairperson
2. Reports on identifying northern alignment as preferred alternative and on geotechnical investigations -- Denis Mulligan, Caltrans\*
3. Presentation of detailed design information on recommended new eastern span -- Brian Maroney, Caltrans, and TY Lin design team\*
  - Yerba Buena Island Transition
  - Main Span West Pier
  - Viaduct Design
  - Bicycle/Pedestrian Path
  - Oakland Touchdown and Park
4. Report on response to passage of four local advisory measures regarding passenger rail service on the bridge -- Steve Heminger, MTC\*
5. Other business/public comment

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\* Attachment sent to members, key staff, and others as appropriate. Copies available at meeting.

**Public Comment:** The public is encouraged to comment on agenda items at committee meetings by completing a request-to-speak card (available from staff) and passing it to the committee secretary or chairperson. Public comment may be limited by any of the procedures set forth in Section 3.09 of MTC's Procedures Manual (Resolution No. 1058, Revised) if, in the chair's judgment, it is necessary to maintain the orderly flow of business.

**Record of Meeting:** MTC meetings are tape recorded. Copies of recordings are available at nominal charge, or recordings may be listened to at MTC offices by appointment.

**Sign Language Interpreter or Reader:** If requested three (3) working days in advance, sign language interpreter or reader will be provided; for information on getting written materials in alternate formats call 510/464-7787.

**Transit Access to MTC:** BART to Lake Merritt Station. AC Transit buses: #11 from Piedmont or Montclair; #59A from Montclair; #62 from East or West Oakland; #35X from Alameda; #36X from Hayward.

**Parking at MTC:** Metered parking is available on the street. No public parking is provided.

## **AGENDA ITEM NO. 2**

**Caltrans**

District 4

Harry Yahata, District Director

December 28, 1998

Contact: Denis Mulligan (510) 286-6293

Colin Jones (510) 286-5776

News Release

*Attn.*

*Steve Heminger*

**CALTRANS IDENTIFIES NORTHERN ALIGNMENT SUSPENSION BRIDGE AS  
PREFERRED ALTERNATIVE FOR BAY BRIDGE SEISMIC PROJECT**

After nearly two years of planning, public hearings and environmental review, the northern alignment suspension bridge has been identified as the preferred alternative for the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, Caltrans officials have announced.

"This is a key step in the process of constructing a safe, modern east span that will serve Californians well beyond the 21<sup>st</sup> century," said Caltrans Toll Bridge Program Manager Denis Mulligan. "We look forward to working with the Bay Area community as we go ahead with the final design."

Caltrans recently concluded a 60-day comment period that followed the release of the draft Environmental Impact Statement (EIS) for the project.

After careful review of comments and consultation with the Federal Highway Administration and other agencies, Caltrans determined that a new bridge built north of the existing span is the preferred alternative for the project.

Local planning and public participation as part of the Metropolitan Transportation Commission (MTC) hearing process were major factors in the department's decision. MTC's Bay Bridge Task Force had recommended construction of a suspension bridge on the north side.

The new bridge will feature many amenities such as a unique self-anchored single-tower design, a 15.5 foot bicycle/pedestrian path and 10-foot shoulders on both sides of the roadway.

Most important, however, will be the safety of the new span -- built to last well over 100 years and able to withstand a maximum credible earthquake on both the Hayward and San Andreas Faults.

Caltrans plans to release the final EIS this spring and begin construction on the new span in early 2000.



# Caltrans Pushes Bay Bridge Plan That S.F., Oakland Oppose

SFChron  
12/29/98

Willie Brown says he'll keep fighting

By Carl Nolte  
CHRONICLE STAFF WRITER

Despite powerful opposition, Caltrans announced yesterday that it wants to go ahead with a single-tower suspension bridge on the so-called northern alignment to replace the eastern section of the Bay Bridge.

Both the design and the route of the new bridge are controversial, with San Francisco Mayor Willie Brown opposed to the route and Oakland Mayor-elect Jerry Brown against the design.

Denis Mulligan, the project manager for the new bridge, said Caltrans had considered all the comments and had come to the conclusion that the design and the alignment north of the present cantilever section of the Bay Bridge was their preferred alternative. The plan includes a 15.5-foot-wide bicycle and pedestrian path, and strengthened outer shoulders that could be used for light rail in the future.

"Clearly," said Mulligan, "not everyone supports any of the alternatives."

His remark is one of the understatement of the season in the Bay Area. The Caltrans design, selected after a series of public hearings, has been attacked on all sides.

And it appears the battle is far from over. Willie Brown's office said yesterday that San Francisco would fight the decision right to the governor's office.

"We find the timing of the Caltrans announcement very strange," said Ron Vinson, Willie Brown's

► **OPPOSE:** Page A15 Col. 1

## Caltrans Picks Disputed Plan For Bridge

► **OPPOSE**  
From Page A11

spokesman, "especially since it comes a week before California gets a new governor."

Both the mayors of San Francisco and Oakland will have an inside track at the governor's office beginning next week.

Governor-elect Gray Davis, who takes office January 4, is an old Willie Brown protege and was chief of staff to Oakland's Jerry Brown when he was governor.

The eastern half of the bridge was badly damaged in the 1989 Loma Prieta earthquake. Caltrans engineers have concluded that it could collapse in another severe quake.

Caltrans has been working on a mandate handed it by outgoing Governor Pete Wilson, who asked that the Bay Area to reach a consensus so that work on the \$1.5 billion project could begin by 2000.

That is still the target date, Mulligan said. But under environmental laws, there are two other steps in addition to yesterday's announcement: adoption of the final environmental impact statement, which could come as early as March, and entry of a "Record of Decision" in the Federal Register.

These could be delayed by court action or perhaps by new marching orders from Sacramento.

Mayor-elect Jerry Brown was out of the state and unavailable for comment yesterday but Willie Brown's office said San Francisco "will continue to fight for an environmentally sound southern alignment," Vinson said, "and we will continue to work for a consensus to move forward."

Caltrans thought it had a consensus as recently as last spring, when a series of public meetings and workshops looked at a number of designs and alignments.

The consensus was supposed to have been developed by the Metropolitan Transportation Commission, which voted 11 to 1 for a new bridge that would be built on the north side of Yerba Buena Island. The bridge would be a single-tower suspension span with a viaduct approach.

But Jerry Brown has complained to the MTC that the whole design process was "fatally flawed and must be rejected." Five other East Bay mayors are also opposed to the design, as is state Senator Don Perata, D-Oakland.

San Francisco's main objection is to the route, which would take the new eastern part of the bridge north of the present bridge between Yerba Buena Island and Oakland.

Willie Brown says the route would take up valuable land on the island.

# Navy weighs in against bridge's east span site

Oakland Trib 12/29/98

By Ronna Abramson  
STAFF WRITER

The battle to build a stronger eastern span of the San Francisco-Oakland Bay Bridge is intensifying, with opposition coming from a new quarter: the U.S. Navy.

The latest of at least a dozen public agencies to enter the bridge fray, the Navy has joined San Francisco Mayor Willie Brown in opposing a northern alignment for the new span, which the California Department of Transportation an-

nounced Monday was its official preferred alternative.

But unlike the city, as a federal agency the Navy has the clout to fight Caltrans without going to court. And it already has wielded some of its clout by refusing to allow Caltrans to drill for soil samples on Yerba Buena Island. The Navy owns Yerba Buena and plans to transfer the island to San Francisco over the next couple of years for redevelopment. Development of Yerba Buena and Treasure Island are high on

Please see **Bridge**, NEWS-9

## Bridge: Key work needs to be done by late May

Continued from NEWS-1

Mayor Willie Brown's agenda.

"The northern alignment jeopardizes a number of valuable historic buildings on the island," said Jeff Young, a spokesman for the Navy branch in San Bruno that oversees Bay Area base conversion. He noted that a new bridge north of the existing span would be even closer to the Nimitz House and other buildings than the old bridge.

In fact, the northern alignment has become a major obstacle in the negotiations between the Navy and the city over the transfer of Yerba Buena Island.

### Jeopardizes land

According to Caltrans, the northern alignment threatens about 6 more acres of usable land than an alternative southern alignment endorsed by San Francisco and the Navy. The loss of that land puts San Francisco's plans to build lofts and other buildings there at risk and hinders the Navy's ability to sell the land to the city.

Caltrans officials, meanwhile, say the Navy's refusal to permit the geology work is jeopardizing its aggressive schedule to build a stronger, safer bridge between Oakland and Yerba Buena Island by 2004.

Caltrans officials have argued that San Francisco's proposed southern alignment would interfere with an East Bay Municipal Utility District sewer outfall. The Port of Oakland, U.S. Coast Guard and East Bay Regional Park District also have supported the northern alignment.

To determine the length of piles on the island, Caltrans needs 32 holes drilled on Yerba Buena Island, measuring up to 4 inches in diameter and as deep as 100 feet.

"If we don't have it (the geology work) by June, we're in a heap of trouble," said Denis Mulligan, chief of the Caltrans toll bridge retrofit program. In June, Mulligan said, Caltrans plans to clear its last procedural hurdle: obtaining a record of decision from the federal government.

Ironically, the Federal Highway Administration — yet another federal agency — has been working closely with Caltrans to meet its schedule.

### Design work progressing

Consultants already have completed about 50 percent of the design on the northern alignment single-tower suspension bridge, also approved in June by the Metropolitan Transportation Commission, a panel of elected officials from throughout the Bay Area that oversees regional transportation issues.

Alameda County Supervisor Mary King, chairwoman of the Bay Bridge Task Force, an MTC committee, suggested the Navy's position is a reflection of Brown's power. "I think Willie is a force to be reckoned with," King said. "When we work out whatever we have to work out with him, that (Navy opposition) will go away."

King said she plans to start the new year working with Brown to resolve their differences.

Brown could not be reached for comment Monday. In addition to concerns about developing Yerba Buena Island, Brown has complained that the bridge project fails to replace the ramps between the bridge and Yerba Buena, whose short distances demand quick acceleration.

Annemarie Conroy, executive director of the Treasure Island Development Authority, said the Navy "is calling the shots," but suggested the city is ready to go to court over the project. Mulligan said it is typical to be sued on such a large project, but remained optimistic that a lawsuit would not delay the project.



# Navy blocks design work for new span

CE James  
12/29/98

■ Caltrans' decision to build north of the current bridge would conflict with plans to build townhouses on Yerba Buena Island

By Carolyn McMillan  
TIMES STAFF WRITER

The U.S. Navy has blocked the state Department of Transportation from completing design work on Yerba Buena Island for the new eastern span of the Bay Bridge, the first salvo in what could turn into a dragged-out fight over its exact path.

Caltrans officials mentioned the Navy's action during a news conference held Monday to announce that the agency has chosen to build the new span to the north of the current bridge.

San Francisco and the Navy are both opposed to the plan, saying the bridge connector would conflict with plans to build townhouses and other amenities on the island.

"The bottom line is the federal government owns the island. We will not agree to any plan that threatens historic buildings and the reuse plan," said Navy spokesman Jeff Young. "It's not a matter of how many acres are sliced away. It's the proximity. No one wants to live in an area that's in proximity of a freeway."

The Metropolitan Transportation Commission, a regional agency made up of Bay Area officials, recommended the northern alignment for the bridge earlier this year.

Caltrans selected it after reviewing four other alternatives because

it affords the best foundation for the self-anchored single-tower bridge design. It also provides better views for motorists of the city and the East Bay hills.

Among the other choices was a plan to build a bridge just south of the current one. That configuration — which is preferred by San Francisco and the Navy — would displace the Yerba Buena Coast Guard station and pose a problem with underground pipes carrying wastewater into the Bay, Caltrans officials said.

Caltrans officials said they knew the northern alignment decision would be controversial. They said they will move ahead with plans to finalize the environmental review and secure necessary approvals, while continuing talks with the Navy to resolve the dilemma of the bridge alignment.

They're trying to move as quickly as possible on the \$1.5 billion project because of the danger posed by a big earthquake, said Denis Mulligan, Caltrans program manager of the toll bridge program.

"We can't satisfy all the competing interests," Mulligan said. "The bridge is very vulnerable. The Loma Prieta earthquake demonstrated that."

Caltrans has moved aggressively to build the eastern span by putting the environmental review process on a fast track and working simultaneously on bridge design.

Caltrans expected to complete the work several weeks ago, but the delays have not caused a significant impact on the construction timetable.

Work is tentatively set to begin in 2000, with completion in 2004.

# Caltrans chooses route for Bay Bridge

## Dispute with Navy over plan for new span

BY SAM DIAZ  
Mercury News Staff Writer

Caltrans finally has chosen a preferred route for the new eastern span of the San Francisco-Oakland Bay Bridge — just north of where the existing span now sits — and is almost

ready to begin talking to construction firms.

But at least one unresolved issue — a disagreement with the U.S. Navy about where Caltrans wants to place the new span — could put a wrinkle in the construction time line. The city

of San Francisco, which plans to redevelop Yerba Buena Island, also is expected to object to the route.

The Navy won't allow Caltrans to drill on the island, the last area that needs testing for support beams of the new structure, because it has concerns about the alignment of the span, said Caltrans' toll-bridge pro-

gram manager Denis Mulligan.

"The bottom line is the federal government owns the island. We will not agree to any plan that threatens historic buildings and the re-use plan said Navy spokesman Jeff Young. "It's not a matter of how many acres are sliced away. It's the proximity. N

See **BAY BRIDGE**, Page 4

# Battle expected over

## ■ BAY BRIDGE

from Page 1B

one wants to live in an area that's in proximity of a freeway."

Mulligan said Caltrans and the Navy are meeting regularly and trying to hammer out an agreement before June.

That's when Caltrans is to file to the Federal Highway Administration its "record of decision," the project's final approval document that includes all of the design and environmental work. Once that is filed, permits can be acquired and bids can go out.

"If we don't have (an agreement with the Navy) by June, we're in a heap of trouble," Mulligan said.

The Metropolitan Transportation Commission, which is overseeing a toll-bridge increase approved by the Legislature to help pay for the signa-

ture-style bridge, in June selected the northern alignment as its preferred choice for the new span because it would be less disruptive and less costly than a southern route.

The southern route would be disruptive to the Coast Guard, which operates from Yerba Buena Island, and the East Bay Municipal Utility District, which operates a plant near the Oakland shore and might have to relocate its main sewer outfall if the bridge were built to the south of the existing span, according to Caltrans. Construction on the south also would call for deeper drilling, raising costs.

The southern route, however, would bypass an area of the island that is being proposed for redevelopment by San Francisco. The city and the Navy are in negotiations over the purchase of the island.

Earlier this year, an official with the San Francisco Redevelopment

Agency threatened to sue if Caltrans moved forward with its plans to build on the northern alignment.

Mulligan said lawsuits are to be expected with such a large project.

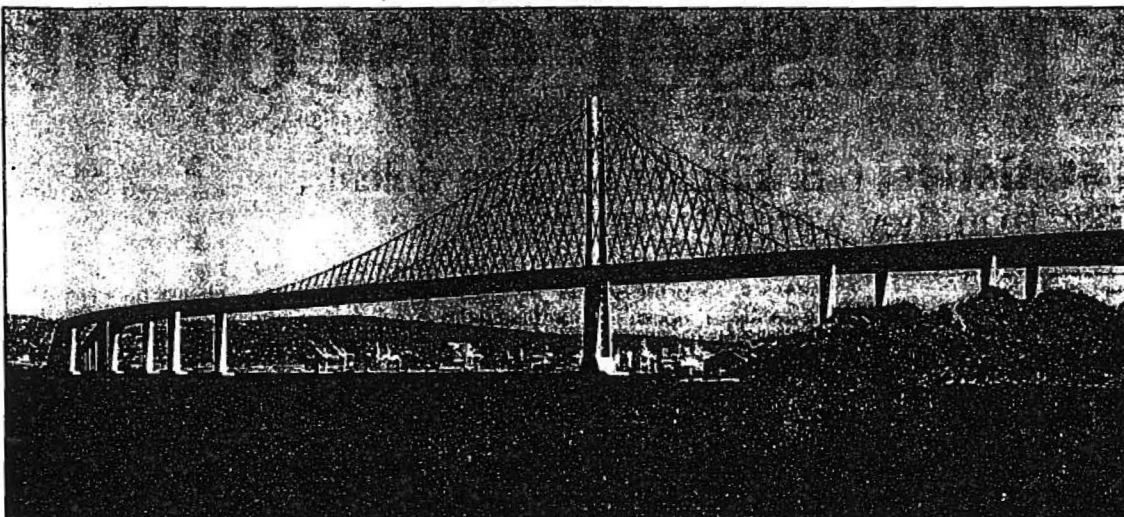
"During the building of the Cypress (Freeway), we were sued a dozen times, but I don't believe it was delayed," he said.

Caltrans, a state agency, has no right to take over the land on Yerba Buena Island because it belongs to a federal agency. But if the Navy and the city of San Francisco reach a deal, the state has another option.

"If the federal government owns (the land), we cannot condemn the federal government," Mulligan said. "But if the land is owned by the city and county of San Francisco, the state can condemn a city."

*The Contra Costa Times contributed to this report.*

# Planned bridge route



SPECIAL TO THE MERCURY NEWS

This is an artist's rendering of the new eastern span of the San Francisco-Oakland Bay Bridge. The agency is almost ready to begin talking to construction firms.

ST Mercury News 12/29/98



# Caltrans OKs bridge plan City opposes

SF Examiner  
12/29/98

## Mayor Brown and others protest; lawsuits likely

by Venice Wagner  
THE EXAMINER STAFF

Despite opposition from mayors on both sides of the Bay and the threat of lawsuits, Caltrans is moving forward with plans to place the eastern span of the Bay Bridge north of the current structure, a design that the Metropolitan Transportation Commission recommended in June.

The decision all but assures a legal fight over the \$1.5 billion plan, meaning a probable delay in the bridge's construction.

Caltrans made its announcement Monday after a 60-day period of public review and consultation with the Federal Highway Administration. Five alternatives were considered.

Under federal guidelines, Caltrans had to make a final design choice before it could move forward with the final draft of the environmental impact report, which is scheduled to be completed this spring. Caltrans plans to finalize its design decision in the

meantime, Caltrans has

[See BRIDGE, A-14]

### ◆ BRIDGE from A-1

## Bay Bridge design OK'd by Caltrans

begun design of the northern alignment of the bridge, drilling in various areas across the Bay to determine seismic responses on the Bay floor.

"Our motivation, why we're not sitting on our hands, is we live in a seismic zone. ... It's prudent to proceed as expeditiously as possible," said Denis Mulligan, program manager of the Toll Bridge Program.

The 1989 Loma Prieta earthquake, whose epicenter was in the Santa Cruz Mountains, shook the Bay Area enough to collapse a section of the upper deck of the bridge's eastern span, Mulligan pointed out. Imagine, he said, what an earthquake on the local Hayward or San Andreas faults could do.

### Mayor Brown disappointed

Mayor Brown, who has opposed the bridge plan, was disappointed with the news of Caltrans' decision, especially with the inauguration of Gov.-elect Gray Davis less than a week away, said Ron Vinson, the mayor's deputy press secretary. Davis was expected to lend San Francisco support in its fight for a span that would be constructed on the southern side of the existing bridge.

"It seems as though Caltrans is buying themselves a lawsuit," Vinson said. "San Francisco will con-

tinue to fight for an environmentally friendly southern alignment. We will continue to work with the city of Oakland, the Port of Oakland, the Federal Highway Administration, the Coast Guard, Navy and other entities to develop a consensus for moving forward with the southern alignment."

Both the Port of Oakland and East Bay Regional Park District currently oppose a southern alignment because it will cut into property they currently use.

Mulligan said Caltrans was bracing for lawsuits and expected that many would be filed in June, when the choice is made formal. However, he said, a delay in construction seems unlikely.

"Every large project we do gets sued," Mulligan said at a press briefing. "The question is how often and by whom. We can't satisfy all the competing interests on this issue."

"We'll proceed with our plan."

If there are no delays, Caltrans plans to begin construction of the new eastern span in 2000 and finish in 2004.

As designed, the single-tower suspension bridge would be positioned to cut into the northeastern edge of Yerba Buena Island that San Francisco hopes to redevelop once the Navy turns over the property to San Francisco. The design includes five lanes in each direction, two 20-foot shoulders and a 15-foot-wide bicycle and pedestrian path.

After approving a northern alignment two years ago, Brown changed his position when he real-

ized it would wreak havoc with the redevelopment plans for the island. He has since proposed a span be built south of the bridge.

But the U.S. Coast Guard, which operates from that side of Yerba Buena Island, would have to move. The Coast Guard said it has no plans to relocate.

### A more elegant design

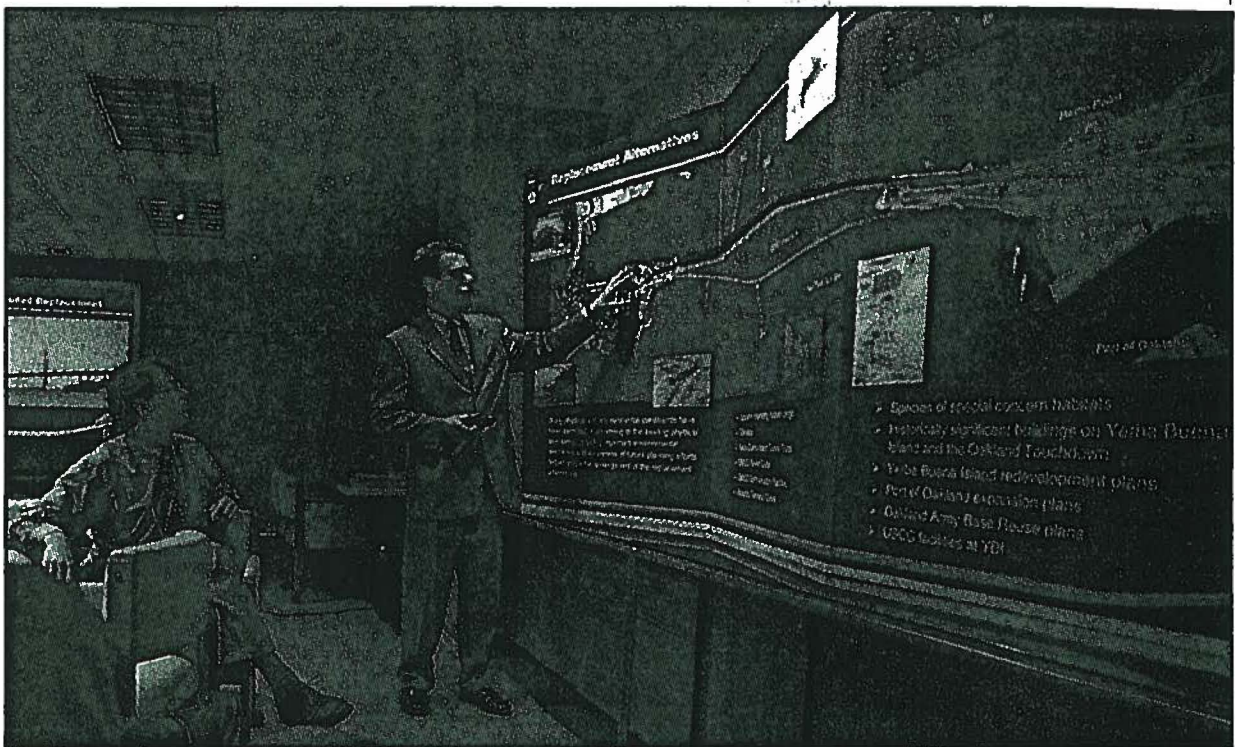
In the East Bay, mayors from Oakland, Emeryville, Albany, Alameda, Piedmont and Berkeley have pushed the MTC and Caltrans to consider a more elegant design than the proposed single-tower suspension. They say the 7,800-foot skyway leading to the suspension bridge, which traverses shallow water, is unattractive. None of them was available for comment Monday.

The design being pushed by Caltrans also doesn't include a rail service, which voters in November said they preferred. Caltrans argues that the project has financial constraints and that additional amenities, such as rail service, would not fit in the budget.

Before settling on the current design, Caltrans reviewed five options to address the seismic susceptibility of the Bay Bridge's eastern span: retrofitting the existing span; constructing a span directly north of the current bridge; constructing a span that juts farther north; constructing a span south of the bridge; and doing nothing.

Caltrans said the most cost-effective choice was the northern-most alignment.

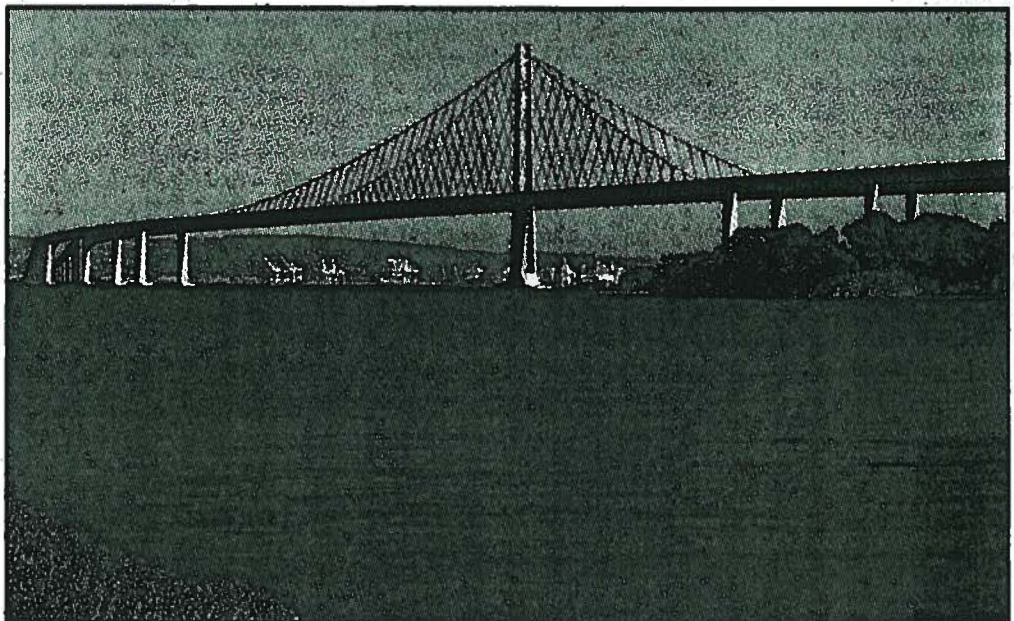




EXAMINER/CHRIS HARDY

**Denis Mulligan, of the Toll Bridge Program, explains how the new Bay Bridge span will be built.**

**An artist's rendition shows the new span of the Bay Bridge. As designed, the new structure would be positioned to cut into the northeastern edge of Yerba Buena Island, and it includes five lanes in each direction.**





0-45 NO.001 P.02

## CALTRANS SEISMIC ADVISORY BOARD

December 30, 1998

The Honorable Barbara Boxer  
U.S. Senate  
1700 Montgomery Street, Suite 240  
San Francisco, CA 94111

**RE: Seismic Safety of the San Francisco-Oakland Bay Bridge**

Dear Senator Boxer:

As members of the Caltrans Seismic Advisory Board (SAB), we would like to direct your attention to a serious and important life safety issue concerning delays in the planning, design, and construction of the new east bay spans of the San Francisco-Oakland Bay Bridge (SFOBB) and we respectfully request your assistance. Since the devastating 1989 Loma Prieta earthquake, the California Department of Transportation (Caltrans) has been working with academia and the private sector to develop an engineering strategy on how to protect the Bay Bridge when the next major earthquake strikes. Thanks to that cooperation, great strides have been made in expanding knowledge and technology applicable to the seismic design of such bridges.

The eight member SAB was constituted by the State of California following the 1989 Loma Prieta earthquake to review and advise Caltrans on seismic safety and policy issues. It was formed as a direct result of the Governor's Board of Inquiry following the 1989 Loma Prieta earthquake and recommendations made by that board in its report "Competing Against Time" enclosed herewith. The members of SAB consist of specialists in seismology, geotechnical engineering, and structural engineering from the practicing earthquake engineering community and academia. The SAB has closely followed and advised Caltrans since the Loma Prieta earthquake on important seismic safety related policy and procedural issues.

In a presentation to the SAB on December 15, 1989 on the status of the new east bay spans of the SFOBB, we were advised about project delays caused by the US Navy refusing to grant permission for soil explorations on and near the tip of Yerba Buena Island which are on the critical path for design completion of the new bridge.

The proposed soil explorations have no impact on any existing structures or facilities. The drilling is critical, however, in providing the technical data needed for the design and construction of a replacement structure along the identified northern alignment.

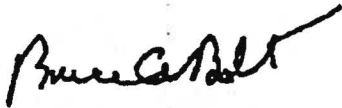
This northern alignment was arrived at after over three years of project studies by Caltrans and a detailed review by the 35 member Engineering Design Advisory Panel (EDAP) for the Metropolitan Transportation Commission (MTC). MTC, which is the transportation planning organization for the San Francisco Bay Area, has recommended this northern alignment as the best alternative.

The Honorable Barbara Boxer  
U.S. Senate  
December 30, 1998  
Page 2

The Seismic Advisory Board is very concerned with any delays, short or long, on such an important project to the citizens and economy of California. Such impediments undoubtedly will jeopardize public safety.

We, the members of the Seismic Advisory Board, remain committed to keeping this critical public safety project on track. Therefor, any assistance you can provide toward obtaining the Navy's permission to proceed with the needed soil explorations would be greatly appreciated.

Sincerely yours,



Bruce A. Bolt, Professor Emeritus  
University of California, Berkeley



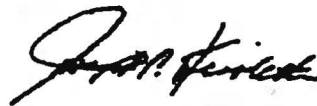
John F. Hall, Professor  
California Institute of Technology



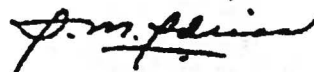
Alexander C. Scordelis, Professor Emeritus  
University of California, Berkeley



F. Robert Preece, President  
Preece, Goudie & Issa, San Francisco



Joseph Nicoletti, Structural Engineer  
URS Consultants, San Francisco



I.M. Idriss, Professor  
University of California, Davis



Frieder Seible, Professor  
University of California, San Diego



Joseph Penzien, Chair SAB  
Professor Emeritus  
University of California, Berkeley

Enclosure      Competing Against Time

C: William Cassidy, Jr., U.S. Navy  
Kenn Parsons, U.S. Navy  
James Van Loben Sels, Caltrans  
James E. Roberts, Caltrans  
Brian H. Maroney, Caltrans  
Thomas J. Post, Caltrans  
Dennis Mulligan, Dist 4, Caltrans  
Steve Heminger, MTC  
Gray Davis, CA Governor-Elect

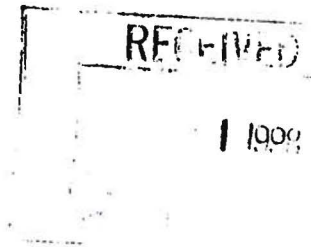


## **AGENDA ITEM NO. 3**

**(Please refer to color pamphlet  
on Yerba Buena Island  
Transition Structure  
Objectives)**

## **AGENDA ITEM NO. 4**

December 7, 1998



Mr. James Spering, Chair  
Metropolitan Transportation Commission  
Joseph P. Bort Metro Center  
101 Eighth Street, 3<sup>rd</sup> Floor  
Oakland, CA 94607-4700

Mr. James W. van Loben Sels, Director  
Caltrans  
P. O. Box 942873  
Sacramento, CA 94273

Dear Mr. Spering and Mr. Van Loben Sels,


As you know, over 65 percent of those voting in San Francisco, Oakland, Berkeley, and Emeryville combined have declared that "the Metropolitan Transportation Commission and Caltrans include passenger rail service as part of the redesign of the Bay Bridge in order to reduce regional traffic congestion, promote regional mass transit use, and protect the environment." We accordingly request that you authorize a thorough and comprehensive design and type selection study of the passenger rail service options for the Bridge in order to fulfill the mandate of the voters. While the current design work for the Bridge should cease, the interim retrofit of the Bridge should continue as planned to improve safety.


We are in agreement that the rail study should include: 1) a thorough analysis of the various rail options (light, heavy, BART) for both the new East Bay crossing and the West Bay crossing; 2) an integration of rail into the bridge structure so that it is functionally efficient and aesthetically exceptional; 3) an analysis of long range transportation needs in this corridor; 4) a cost feasibility analysis; 5) viable funding options. The study should be completed within a reasonable length of time so as to not unduly delay the project.

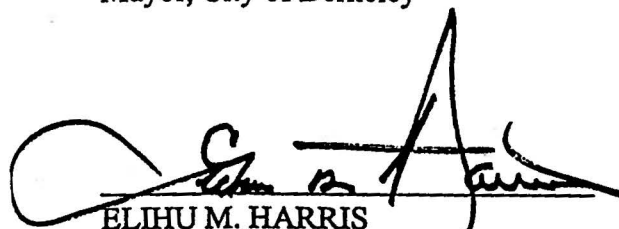
Upon completion of the study, the appropriate alternative and funding plan should be selected and incorporated into the project.

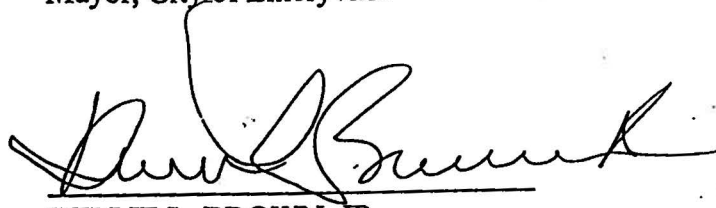
Please join us in making this bridge an international model of safety, transportation excellence, and beauty; truly a world class bridge. The voters expect no less.

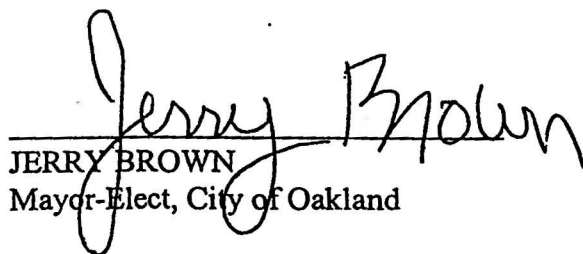
Sincerely,

  
SHIRLEY DEAN  
Mayor, City of Berkeley

  
KEN BUKOWSKI  
Mayor, City of Emeryville

  
ELIHU M. HARRIS  
Mayor, City of Oakland

  
WILLIE L. BROWN, JR.  
Mayor, City and County of San Francisco

  
JERRY BROWN  
Mayor-Elect, City of Oakland

c: MTC members  
Lawrence Dahms, MTC  
Bill Hein, MTC  
Denis Mulligan, Caltrans  
Brian Marony, Caltrans



METROPOLITAN  
TRANSPORTATION  
COMMISSION

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December 16, 1998

*James P. Spring, Chair*  
Solano County and Cities

*James T. Beall Jr., Vice Chair*  
Santa Clara County

*Keith Artell*  
U.S. Department of Housing  
and Urban Development

*Jane Baker*  
Cities of San Mateo County

*Sharon J. Brown*  
Cities of Contra Costa County

*Mark DeSaulnier*  
Contra Costa County

*Dorene M. Glascopini*  
U.S. Department of Transportation

*Mary Griffin*  
San Mateo County

*Elisba Harris*  
Cities of Alameda County

*Tom Hsieh*  
City and County of San Francisco

*Mary V. King*  
Alameda County

*Steve Kinsey*  
Marin County and Cities

*Jean McCown*  
Cities of Santa Clara County

*Charlotte B. Powers*  
Association of Bay Area Governments

*Jon Rubin*  
San Francisco Mayor's Appointee

*Angelo J. Strucosa*  
San Francisco Bay Conservation  
and Development Commission

*Kathryn Winter*  
Napa County and Cities

*Sharon Wright*  
Sonoma County and Cities

*Harry Yabata*  
State Business, Transportation  
and Housing Agency

*Lawrence D. DeBms*  
Executive Director

*William F. Hein*  
Deputy Executive Director

The Honorable Willie L. Brown, Jr.  
Mayor, City and County of San Francisco  
401 Van Ness Avenue  
San Francisco, CA 94102

Dear Mayor Brown,

Thank you for your letter of December 7, 1998 regarding the passage of four local advisory measures regarding passenger rail service on the San Francisco-Oakland Bay Bridge.

As you know, MTC's design review process for the new eastern span of the Bay Bridge has been governed by the terms of Senate Bill 60 (codified as Section 188.5 and Section 31000 et seq of the Streets and Highways Code), which was signed into law by the governor in August 1997. These provisions were subsequently amended by Assembly Bill 2038, which the governor signed in June 1998. The law establishes a number of parameters for the new eastern span design that are relevant to your request regarding passenger rail service:

- The roadway in each direction will consist of five traffic lanes each 12 feet wide, with two shoulders each 10 feet wide for each direction;
- The cost of the new bridge is defined in statute (\$1.285 billion) and is paid for through a combination of state funds and a \$1 toll surcharge on Bay Area bridges which the legislation enacts; and
- MTC can extend the toll surcharge to pay for four design "amenities": a cable-supported main span, relocation or replacement of the Transbay Terminal, bicycle/pedestrian access on the new east span, and bicycle/pedestrian access on the existing west span.

In other words, the law distinguishes this seismic safety project from a typical transportation improvement project in two significant respects. First, the new eastern span must have the same capacity of traffic lanes as the existing bridge. Second, passenger rail service is not included as an eligible design "amenity" on the new bridge.

The language of the four advisory measures ("reduce regional traffic congestion, promote regional mass transit use") and your letter's request that "the current design work or the bridge should cease" are inconsistent with the statutory mandate for a seismic safety replacement project described above. The current design work on the new eastern span is approximately 50% complete and has cost the taxpayers \$40 million. To start anew with a substitute design would entail considerable cost and delay. Moreover, including rail service on the bridge and its accompanying approach structures in San Francisco and the East Bay would require substantial new funding and additional legislative action as well. All of this would take time and cost money.



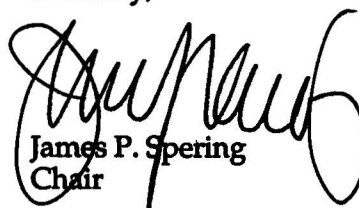
We believe we are compelled by state law to continue to press forward with the current design in order to reduce the risk that a major earthquake will destroy the existing east span before a replacement can be built. Within the limits of state law, the new eastern span is being designed to accommodate passenger rail service at some future date by strengthening certain supporting deck elements beneath the shoulders, or breakdown lanes, on the new span. Thus, the new span will have both the strength and the space to accommodate future rail service without taking any traffic lanes out of service. Therefore, the constraint on initiating rail service across the Bay Bridge will not be the design of the new eastern span, but rather the financial and engineering challenges of accommodating such service on the existing western span, in downtown San Francisco, and in Oakland and conceivably other East Bay communities.

In parallel with the current design process for the new eastern span, and to be responsive to your request for a study of passenger rail options in the Bay Bridge corridor, we propose to conduct an analysis of the following three options:

1. Improve existing services – As you know, the Bay Bridge corridor already is served by multiple transit providers including BART, AC Transit, and the Alameda and Vallejo ferries. We believe that the first option to examine should be improvements to these existing services that can be implemented within the next few years.
2. On bridge rail service – As noted above, the major challenges to instituting rail service on the Bay Bridge are the physical and engineering constraints of the Yerba Buena Island tunnel, existing western span, and the approaches at either shore. These constraints are worthy of serious examination.
3. Separate rail guideway – A clear alternative to the daunting engineering challenge of including rail service on the Bay Bridge itself would be a separate rail bridge or tube in the same vicinity. Such an alternative was examined in MTC's 1991 Bay Crossing Study, and we would propose to update and enlarge upon that analysis as appropriate.

We look forward to discussing these and any other relevant study options with you and your staff at your convenience. At the same time, however, we must keep the new eastern span seismic safety project on schedule for completion at the earliest possible date.

Sincerely,



James P. Spering  
Chair

cc: James W. van Loben Sels, Caltrans

**DEPARTMENT OF TRANSPORTATION**

**OFFICE OF THE DIRECTOR**

1120 N STREET

P.O. BOX 942873

SACRAMENTO, CA 94273-0001

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12-28 3:20 PM.

Post-It™ brand fax transmittal memo 7671

# of pages 3

To <i>Steve Henniger</i>	From <i>Denis Mulhigan</i>
Co.	Co.
Dept.	Phone #
Fax #	Fax #

December 28, 1998

Mayor Shirley Dean  
City of Berkeley  
2180 Milvia Street  
Berkeley, CA 94704

Mayor Elihu M. Harris  
City of Oakland  
One City Hall Plaza  
Oakland, CA 94612

Mayor Ken Bukowski  
City of Emeryville  
2200 Powell Street  
12<sup>th</sup> Floor  
Emeryville, CA 94608

Mayor Willie L. Brown, Jr.  
City of San Francisco  
401 Van Ness Avenue  
Room 336  
San Francisco, CA 94102

Mayor-Elect Jerry Brown  
City of Oakland  
One City Hall Plaza  
Oakland, CA 94612

Dear Mayors and Mayor-Elect:

Thank you for your letter of December 7, 1998, regarding the passage of four local advisory measures regarding passenger rail service on the San Francisco-Oakland Bay Bridge.

The Draft Environmental Impact Statement (EIS) for the San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Safety Project was released to the public on September 24, 1998. The comment period for this Draft EIS closed on November 23, 1998. The purpose of this project is to address the serious seismic deficiencies of the existing structure. Adding trains to the SFOBB is beyond the scope of this seismic safety project. An array of reasonable alternatives which address the purpose and need of the East Span Seismic Safety Project was included and analyzed in the Draft EIS; placing trains on the bridge was not part of this array.

Under existing state and federal law, transportation projects are developed consistent with a Regional Transportation Plan (RTP). Under federal law, this RTP must be a fiscally constrained planning document developed by the Metropolitan Planning

**Mayors and Mayor-Elect**  
**December 28, 1998**  
**Page 2**

**Organization (MPO).** The Metropolitan Transportation Commission (MTC), the MPO for the Bay Area, has an adopted RTP consistent with federal law. This RTP has a twenty year planning horizon and includes transit enhancements in the Transbay Corridor. The East Span Seismic Safety Project is consistent with MTC's RTP. The ballot measures in your four cities did not modify or amend MTC's RTP.

Senate Bill 60 which was signed into law on August 20, 1997, outlined the funding for the East Span Seismic Safety Project. Senate Bill 60 added section 30604.5 to the Streets and Highways Code which states: "Notwithstanding any other provision of law, local and state permitting authorities shall not impose any requirement that a . . . mass transit facility be constructed on the San Francisco-Oakland Bay Bridge as a condition for issuing any permit, granting any easement, or granting any other form of approval needed, for the construction of a new bridge." This is a clear statement of legislative intent that the project is not a mass transit or rail project and that it focus on seismic safety. The ballot measures in your four cities did not modify or amend existing State law.

Senate Bill 60 also implemented a carefully crafted funding package for the seismic retrofit of all toll bridges in the State of California, including the SFOBB. Reaching a legislative consensus on this funding package was a time-consuming and difficult process. This funding package did not provide for consideration of rail on the SFOBB, and therefore, the State Legislature would have to reconsider its funding decision before anyone could consider incorporating rail into the SFOBB East Span Seismic Safety Project. Given the significant cost associated with rail, undoing the existing consensus would at best significantly delay the current seismic safety project.

Your letter references the interim seismic retrofit of the eastern spans of the SFOBB. It is imperative to clarify the purpose of this project. The purpose of the interim seismic retrofit of the east spans of the SFOBB is to prevent multi-span collapse with the resulting catastrophic loss of life that will result from a moderate, more probable earthquake. The interim seismic retrofit does not provide protection from a large earthquake; that is the purpose of the East Span Seismic Safety Project. After the interim seismic retrofit of the east spans is complete, a maximum credible earthquake will still result in a multi-span collapse of the SFOBB. Therefore, the interim retrofit does not provide sufficient performance to justify postponing the East Span Seismic Safety Project. Delaying the SFOBB East Span Seismic Safety Project would jeopardize public safety. It will risk lives. Therefore we can not delay the East Span Seismic Safety Project.

As part of the planning process for the SFOBB East Span Seismic Safety Project MTC has recommended to the Department of Transportation (Caltrans) its locally desired option. Caltrans and FHWA are the legal decision makers for this project and are fulfilling this role. Due to the pressing public safety risk associated with the existing SFOBB, Caltrans is embarked upon risk design for MTC's locally recommended alternative. Caltrans acknowledges that this risk design may be discarded with the NEPA decision. However, it is



prudent to risk the cost of preparing this design, since it can potentially provide public safety at a much earlier date. This risk design provides flexibility, so future decision makers could easily modify the structure to add light rail. This flexibility is being accomplished by selectively strengthening supporting bridge sections beneath the shoulders of the new bridge. Decision-makers in the future then will have the option of deciding how best to use the space on the new bridge to address the region's transportation challenges.

**In the interest of public safety, we will keep the SFOBB East Span Seismic Safety Project on schedule for completion at the earliest possible date. We look forward to working with the Bay Area to complete a rail planning study to facilitate future projects and future decisions.**

  
JAMES W. VAN LOBEN SELS  
Director

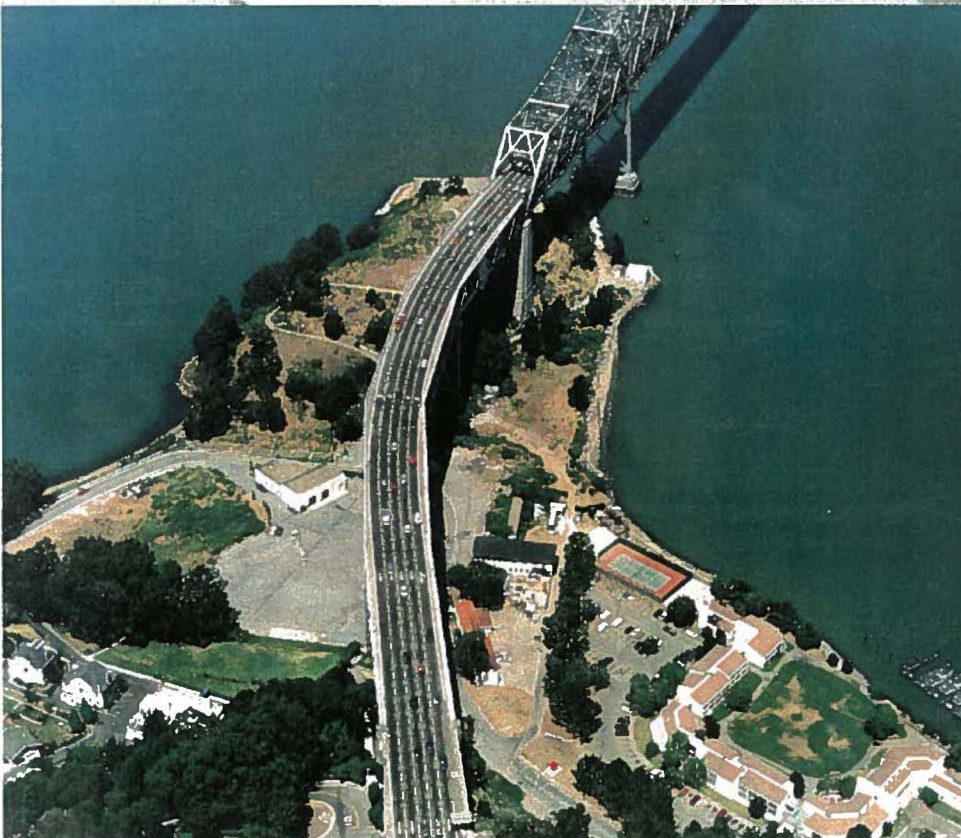
## YERBA BUENA ISLAND TRANSITION STRUCTURE

### OBJECTIVES

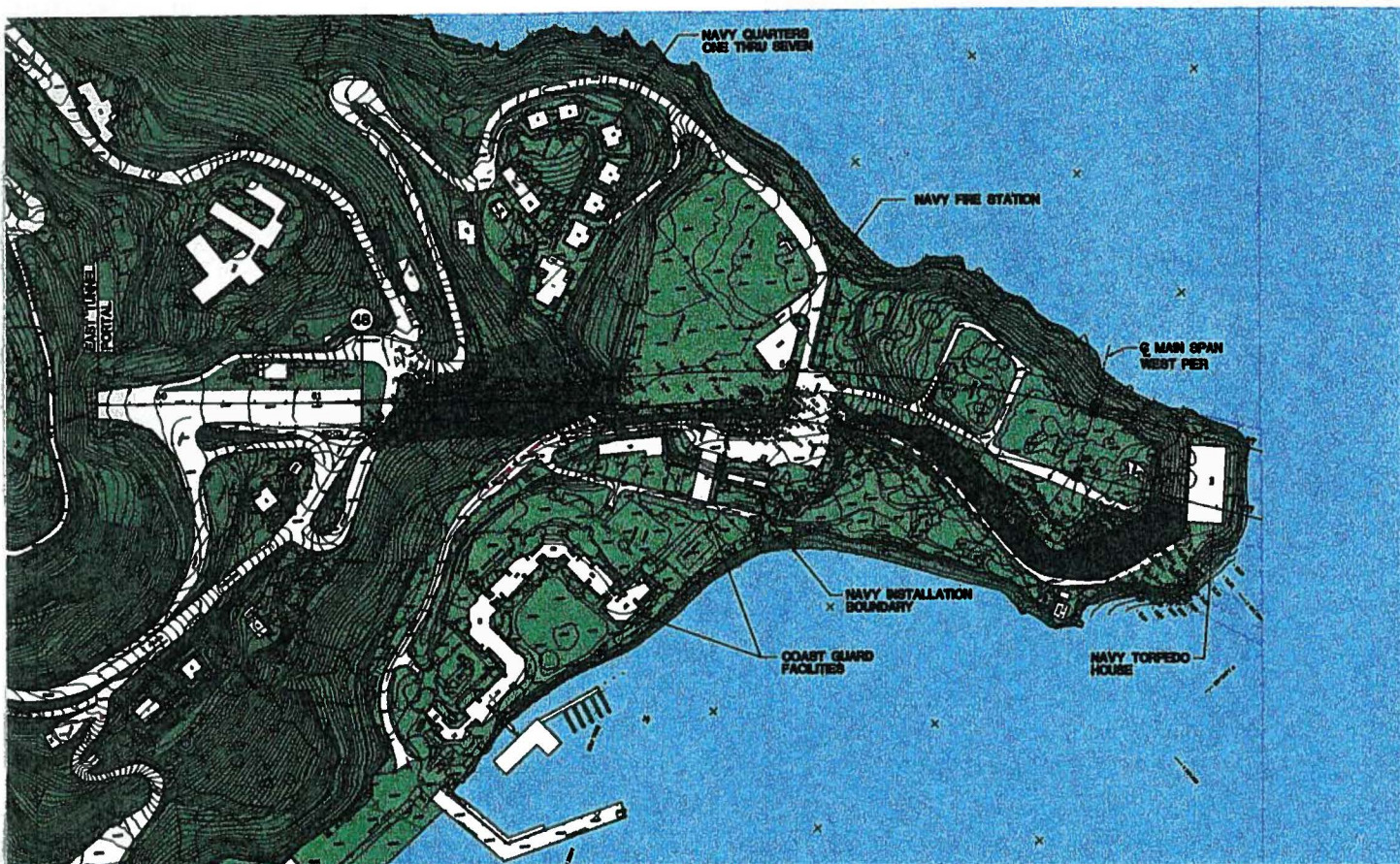
- MINIMIZE IMPACT ON EXISTING FACILITIES/ENVIRONS
- MAINTAIN EXISTING TRAFFIC DURING CONSTRUCTION
- MAINTAIN EXISTING RAMPS (EXCEPT EB ON-RAMP)
- PROVIDE SAFE HIGHWAY GEOMETRICS
- PROVIDE RELIABLE SEISMIC PERFORMANCE
- PROVIDE OPTIMUM AESTHETICS
- CONTROL CONSTRUCTION COST
- ALLOW FOR FUTURE RAMP ADDITIONS
- EXISTING FEATURES

### EXISTING FEATURES

The YBI transition structure extends over a picturesque but rugged portion of Yerba Buena Island that presents a number of structural and aesthetic challenges. It is proposed to retain the existing viaduct structure for a distance of about 170 m east of the easterly portal of the YBI tunnel; beyond this point (viaduct Bent 48) the existing bridge will be removed as indicated in Figure 1. It is necessary to retain this portion of the existing viaduct in order to accommodate traffic during construction of the transition structure; this portion of the existing viaduct can be widened or modified but cannot be reasonably raised or lowered. East of viaduct Bent 48 the terrain slopes sharply dictating the use of variable column heights ranging from 5 m to 50 m. There are relatively few roads in this region of the island and those that do exist are circuitous and steep. In general the area to the north of the transition structure is vacant US Navy property with historic (or potentially historic) buildings most notably quarters 1 through 7 and the former torpedo building at the east end of the island. The area to the south of the transition structure is an operating US Coast Guard facility. The sections below







**EXISTING FEATURES, FIGURE 1**

address some of the constraints in the development of the structural arrangement of the transition structure.

## **HORIZONTAL ALIGNMENT**

In July 1997, EDAP and the Design Task Force recommended that the new bridge design be built on an alignment north of the existing bridge, with two parallel separated decks. The parallel separation between the decks needs to be achieved in the distance between the easterly portal of the YBI tunnel and the

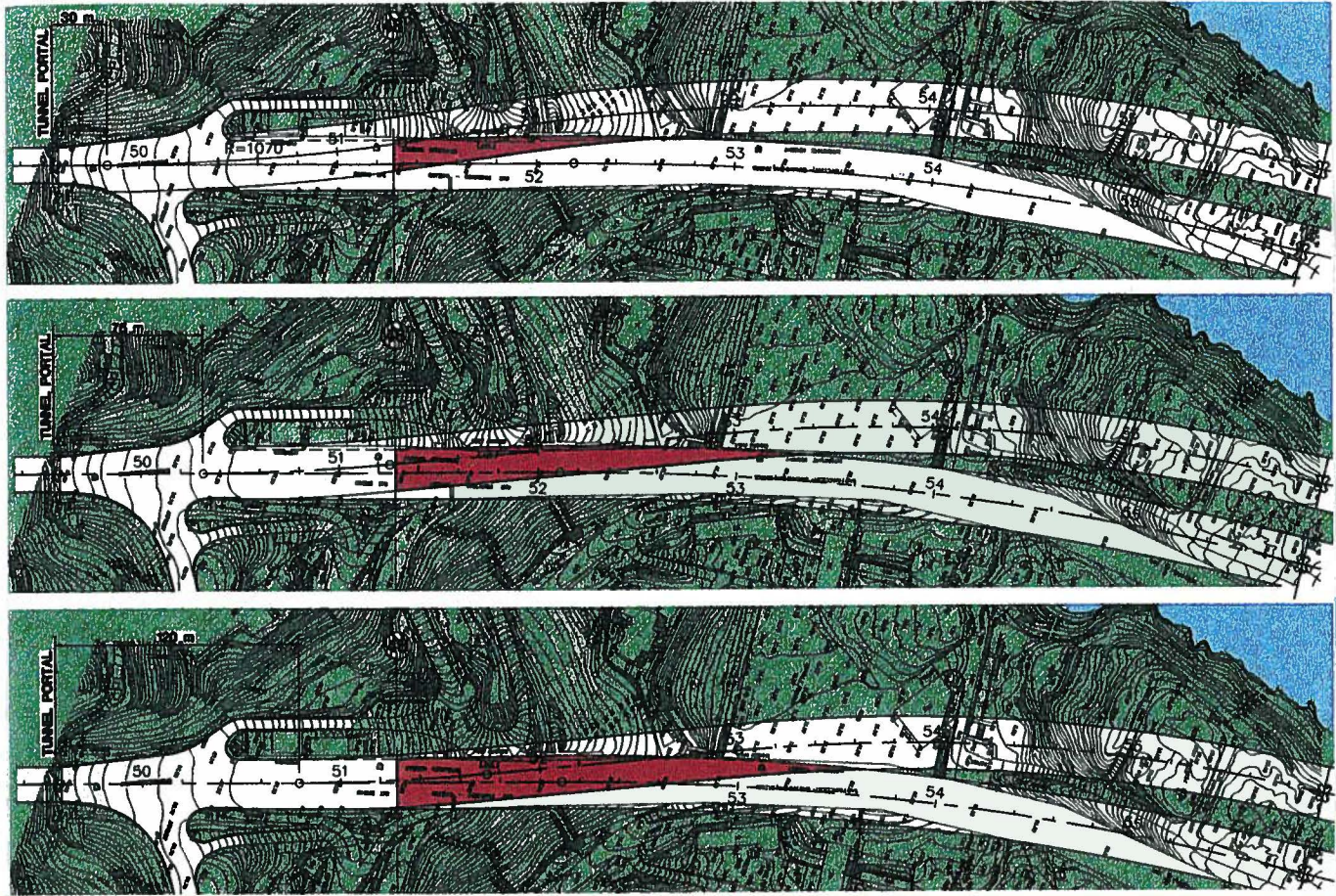
beginning of the main span; the length of this transition zone is currently about 640m.

Since it is desired to provide for a design speed of 100km/hr. (62mph), minimum curve radii in the transition zone should be in the range of 900 to 1070m in order to maintain reasonable superelevation rates along the structure. The larger radius is preferable in the vicinity of the existing viaduct in order to limit the amount of overlay that must be placed on the viaduct to achieve the superelevation.

The point where the divergence between the WB and EB roadways

begins has a significant impact on the structure arrangement. As illustrated by Fig 2, the closer the beginning of the divergence is to the tunnel portal, the less the new WB roadway overlaps the new EB roadway. In the overlap area (shaded area), the WB structure cannot be supported by columns directly below and must be supported by outrigger type bents or other means; the appearance is further aggravated by the fact that as the overlap area extends eastward, the outrigger bent columns become taller and, thus, more visible. The proposed beginning of the divergence is





**HORIZONTAL ALIGNMENT, FIGURE 2**

approximately 120m from the tunnel portal; this location is necessary to avoid impacting the angle of sight of drivers entering along the existing WB on-ramp and decreasing the operational characteristics in this area. To move closer to the tunnel would make the area less safe than the existing condition.

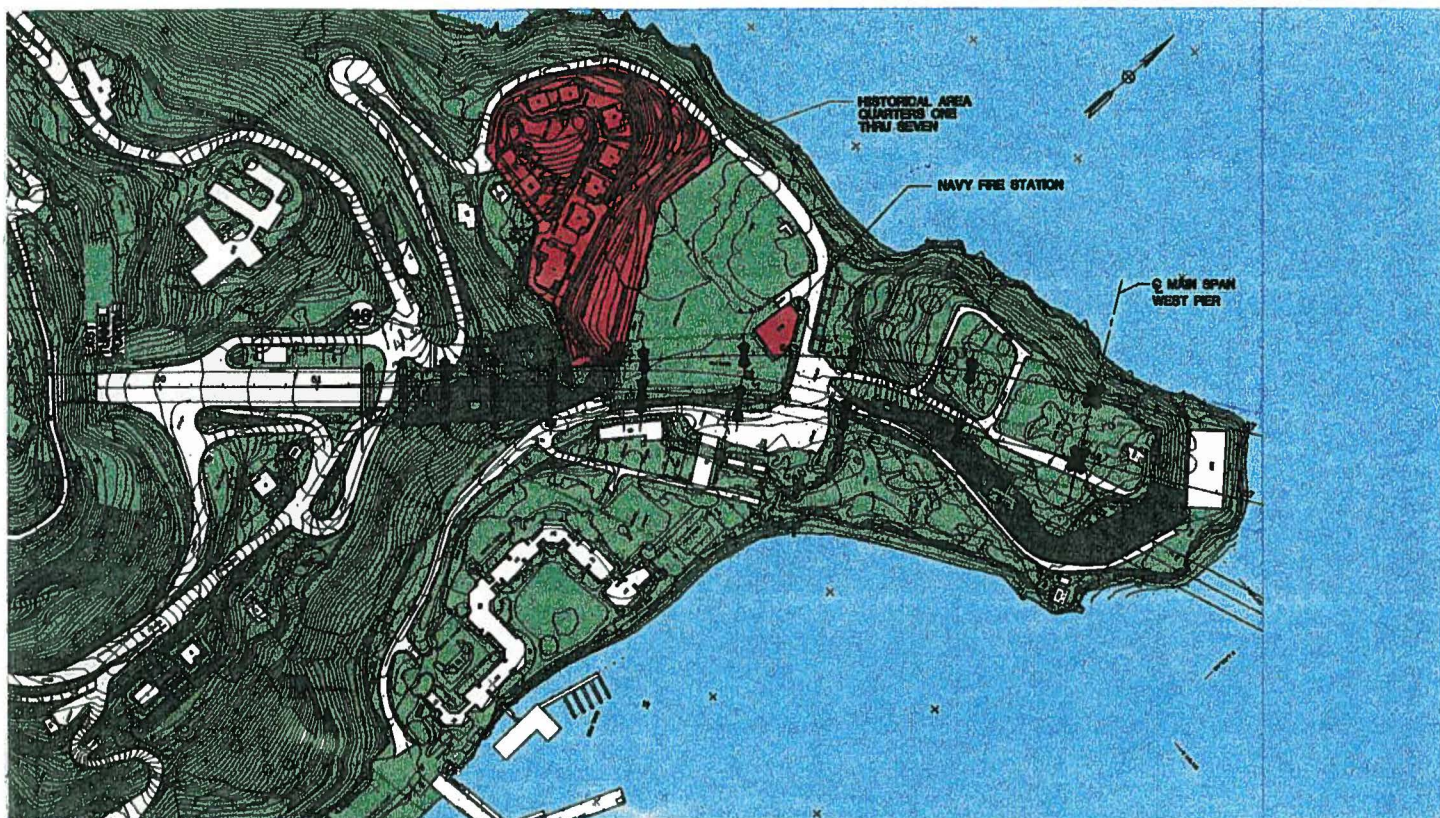
### STRUCTURE DEPTH VARIATION

The preliminary design of the East Spans has concluded that the

optimum superstructure depth for the skyway (non-haunched sections) and the main span is about 5.5m. To create an aesthetically pleasing transition, the structure depth tapers from this 5.5m depth to 1.6m in depth where it joins the existing viaduct (Viaduct Bent 48) as shown in Fig 4 (exaggerated scale). The structure depth of the upper (WB) level of the existing viaduct is about 1.6m, which provides a vertical clearance of about 5.9m above the lower level (EB) roadway. The vertical clearance between the new WB and EB

structures decreases as these structures extend eastward until it reaches the minimum acceptable clearance of 5.1m. It is possible to increase the structure depth of the new WB roadway adjacent to the viaduct; however, a sudden constriction in vertical clearance is considered undesirable from the drivers' perspective and from an aesthetic viewpoint. The superstructure depth of the EB roadway cannot be increased near the viaduct without impairing the vertical clearance over Treasure Island/Macalla Road.





**RESTRICTED COLUMN LOCATIONS, FIGURE 3**

## RESTRICTED COLUMN LOCATIONS

Column locations along the proposed alignment of the Transition Structure are influenced most significantly by two existing restrictions (see Figure 3): (1) the historic district including Navy Quarters 1 through 7; it is essential to keep foundations outside the boundaries of the historic district, and (2) it is desirable to avoid Building 213, the vacant Fire House, but not imperative. In combination, these two restrictions limit the span arrangement for the Transition Structure; if either of these restrictions is removed, one

column could be eliminated from both the WB and EB structures.

The existing Treasure Island/Macalla Road also impacts column placement but to a lesser degree since this road can to some extent be realigned.

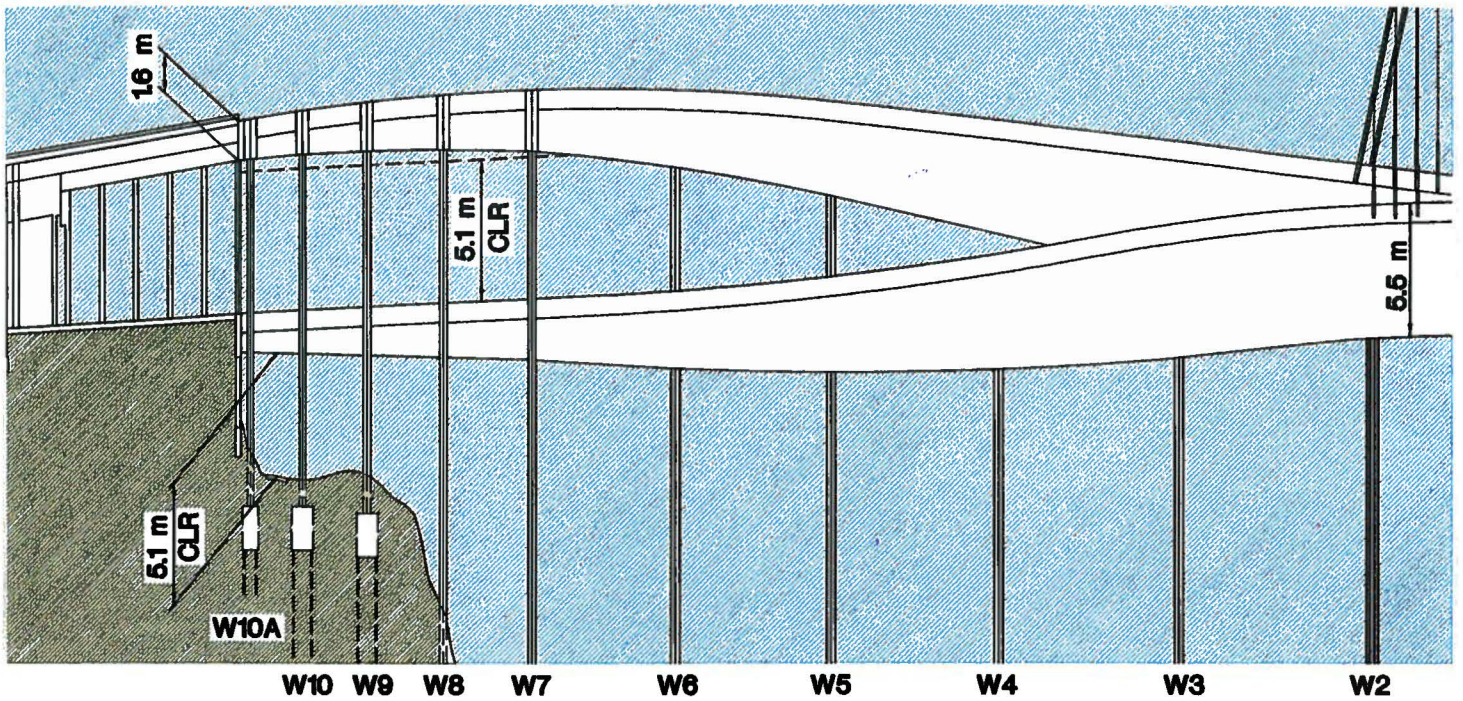
## EASTBOUND ON-RAMP INFLUENCE

As part of the project, a new EB on-ramp is provided along the southerly side of the new transition structure. To accommodate this ramp the EB structure widens from a point 34 m west of the west main

span pier toward the existing viaduct. The beginning point of this widening is the location where the steel deck section of the main span terminates and the concrete deck section of the transition structure begins. To extend this widening further eastward would impact the superstructure design of the main span and, in particular, the anchorage zone for the main cables.

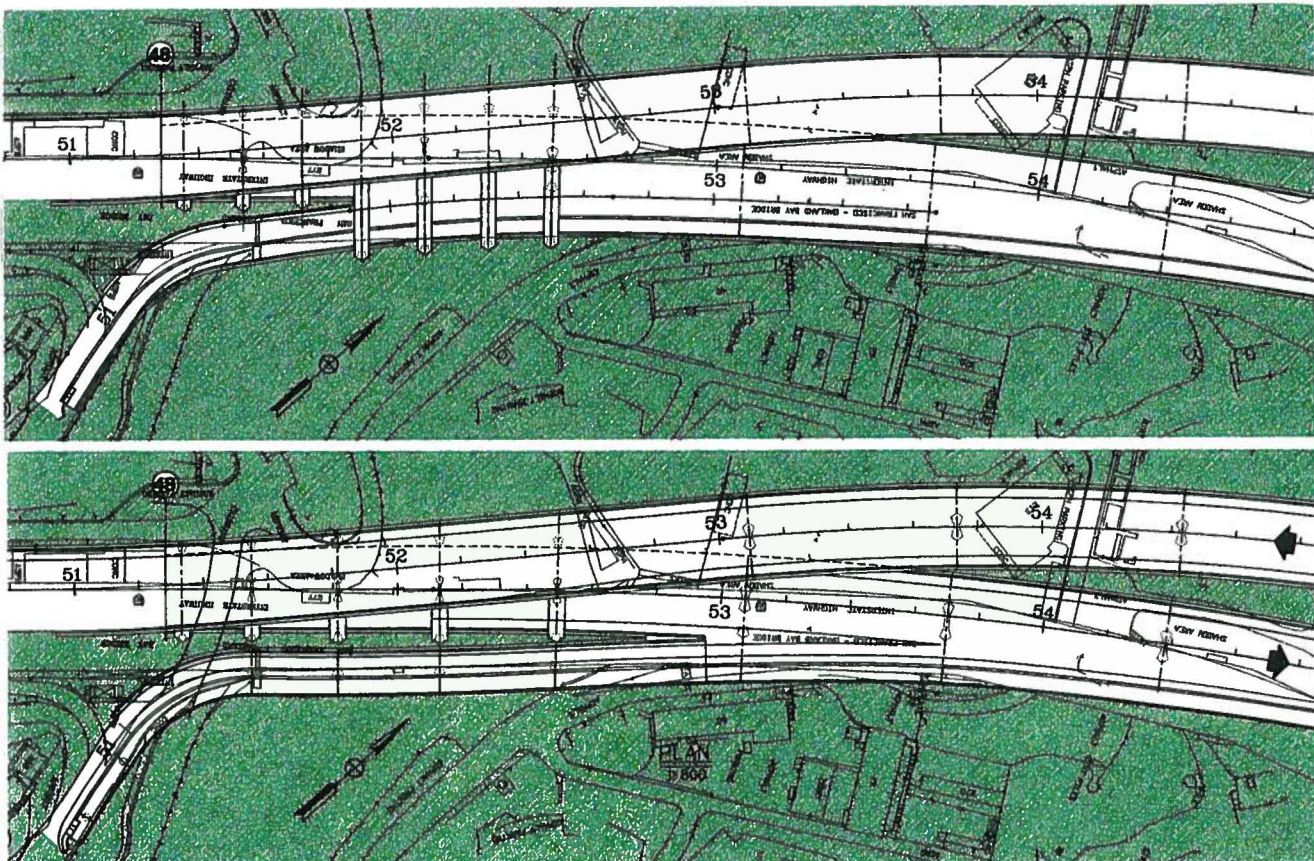
It is desired that the new EB on-ramp meet current geometric design standards. This in turn necessitates that the ramp remain joined to the EB structure until it is well within the area where the WB





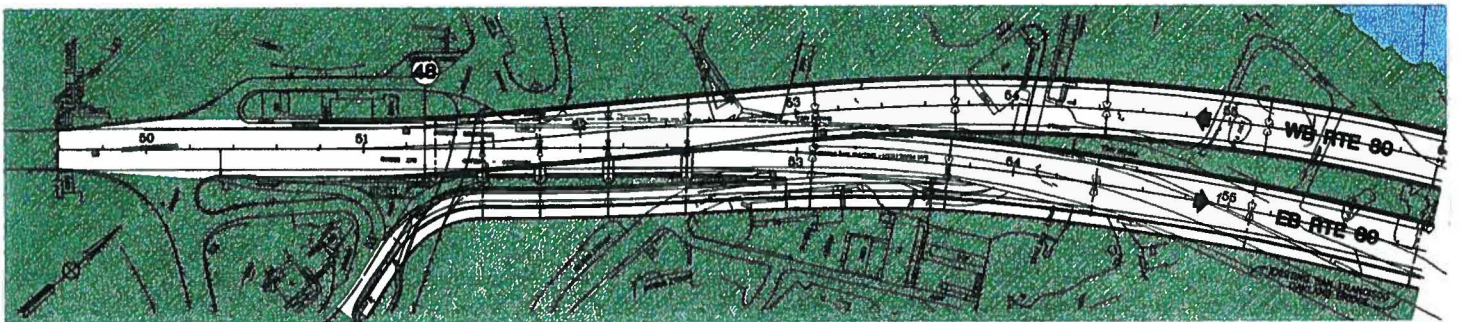
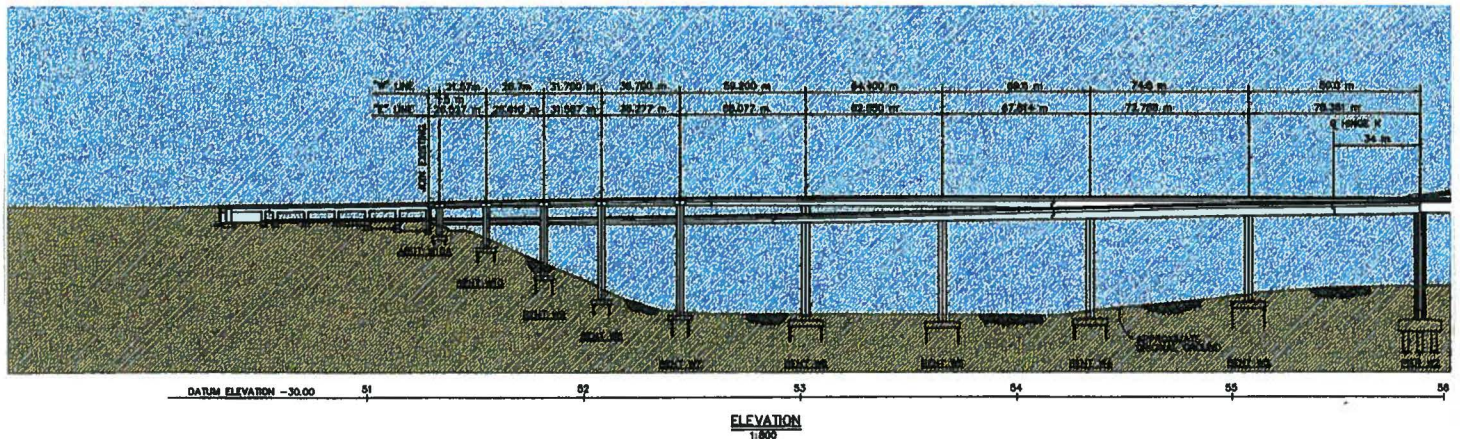
(EXAGGERATED VERTICAL SCALE)

STRUCTURE DEPTH VARIATION, FIGURE 4



EB ONRAMP INFLUENCE, FIGURE 5





**PROPOSED ARRANGEMENT, FIGURE 6**

structure and EB structure overlap, as indicated in the upper portion of Figure 5. In this region the overhead beams for the outrigger bents must span across the ramp; this increased span reduces their load-carrying capacity and requires closer spacing for the outrigger bents.

Recently the possibility of utilizing a non-standard ramp entrance has been investigated as shown in the lower portion of Figure 5. This configuration reduces the span length of the outrigger bent beams and permits a reduction in the number of bents.



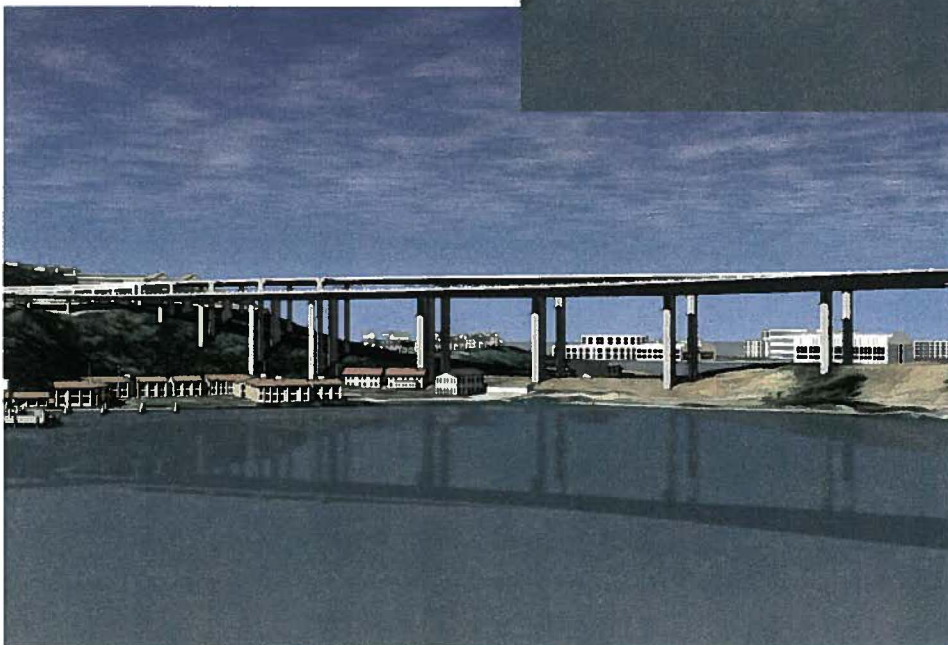
**YBI TRANSITION STRUCTURE (VIEW FROM ABOVE)  
FIGURE 7**





**YBI TRANSITION STRUCTURE**  
**(VIEW ON EB ROADWAY)**  
**FIGURE 8**

**YBI TRANSITION STRUCTURE**  
**(VIEW FROM SOUTH)**  
**FIGURE 9**

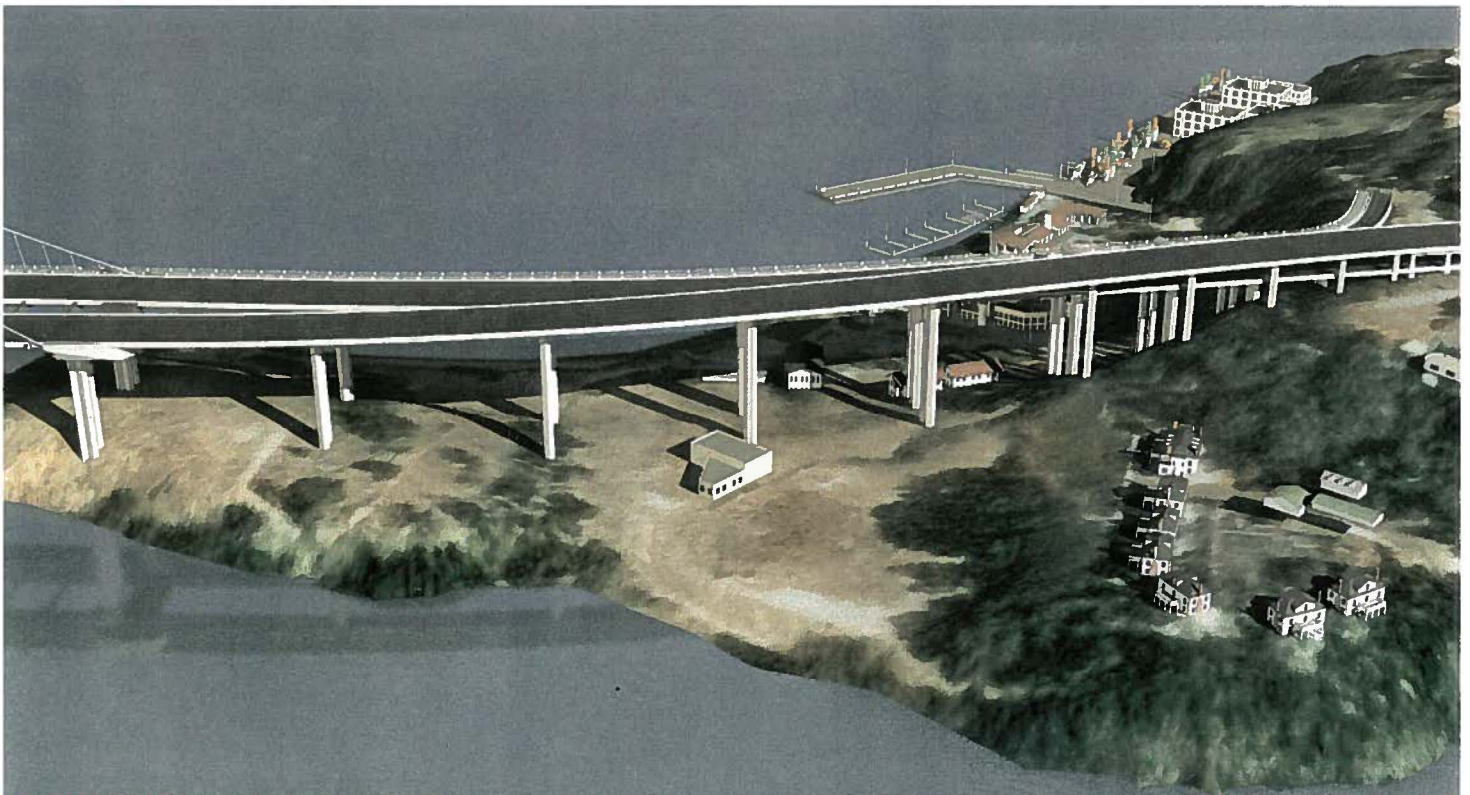


**YBI TRANSITION STRUCTURE**  
**(VIEW FROM SOUTH)**  
**FIGURE 10**



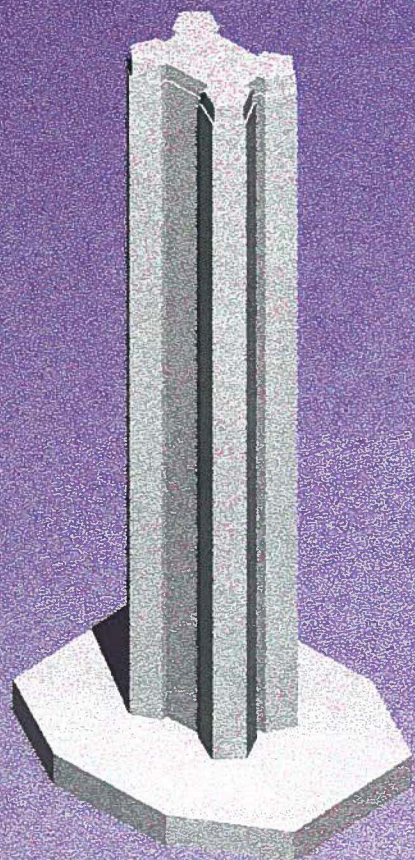


YBI TRANSITION STRUCTURE (VIEW FROM NORTH), FIGURE 11

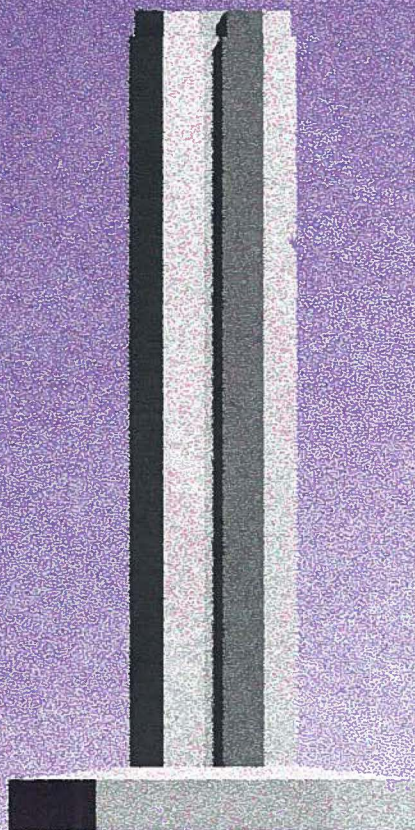


YBI TRANSITION STRUCTURE (VIEW FROM NORTH), FIGURE 12

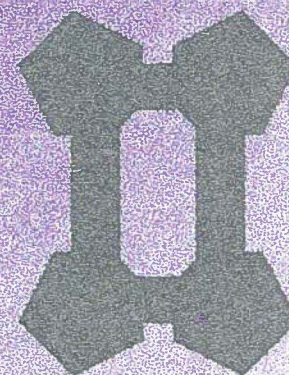




AXONOMETRIC



ELEVATION



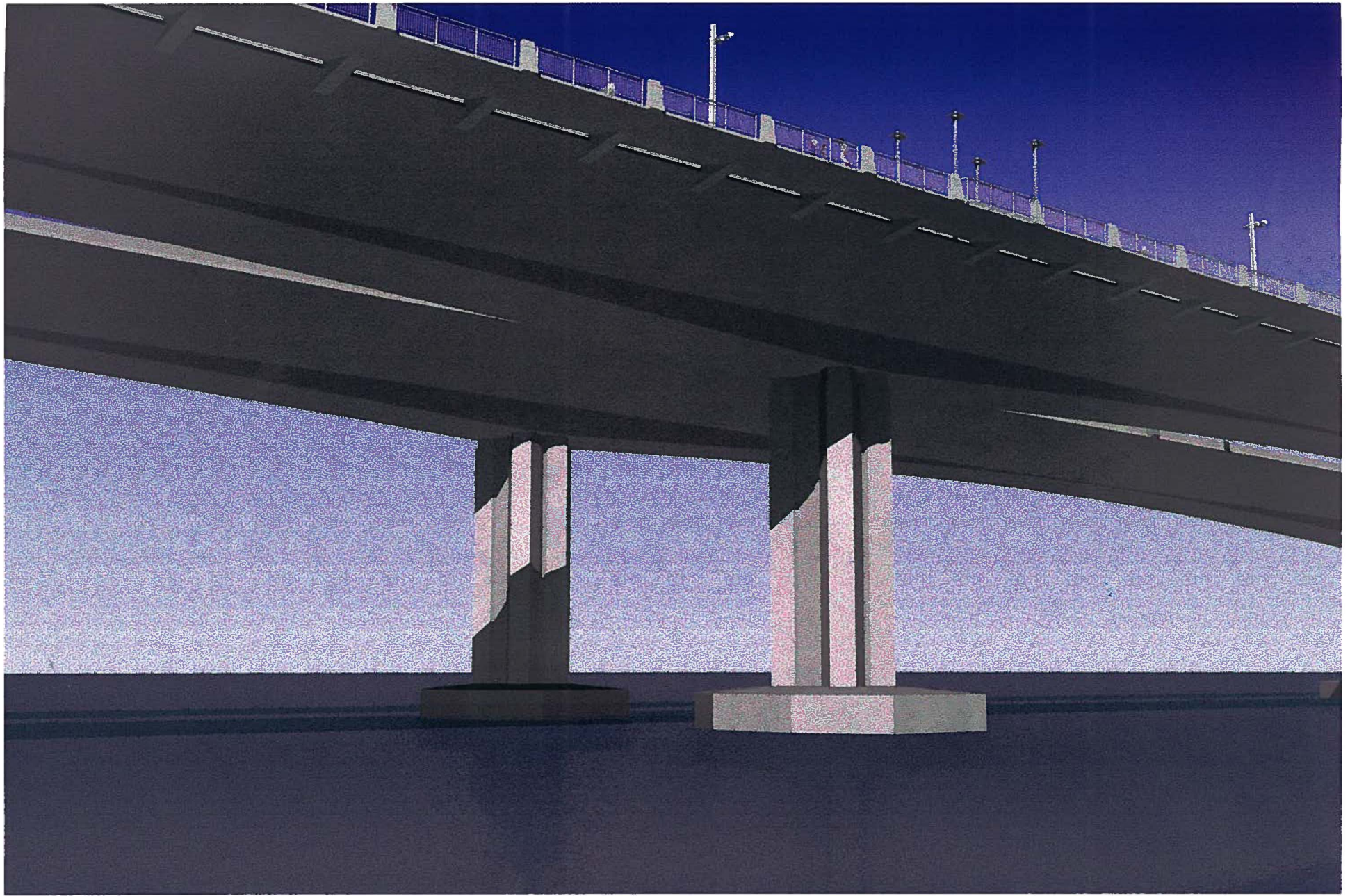
SECTION

## SKYWAY PIER DESIGN



SAN FRANCISCO - OAKLAND BAY BRIDGE  
EAST SPAN SEISMIC SAFETY PROJECT















# Bay Bridge Design Task Force

January 13, 1998 - 1:00 p.m.

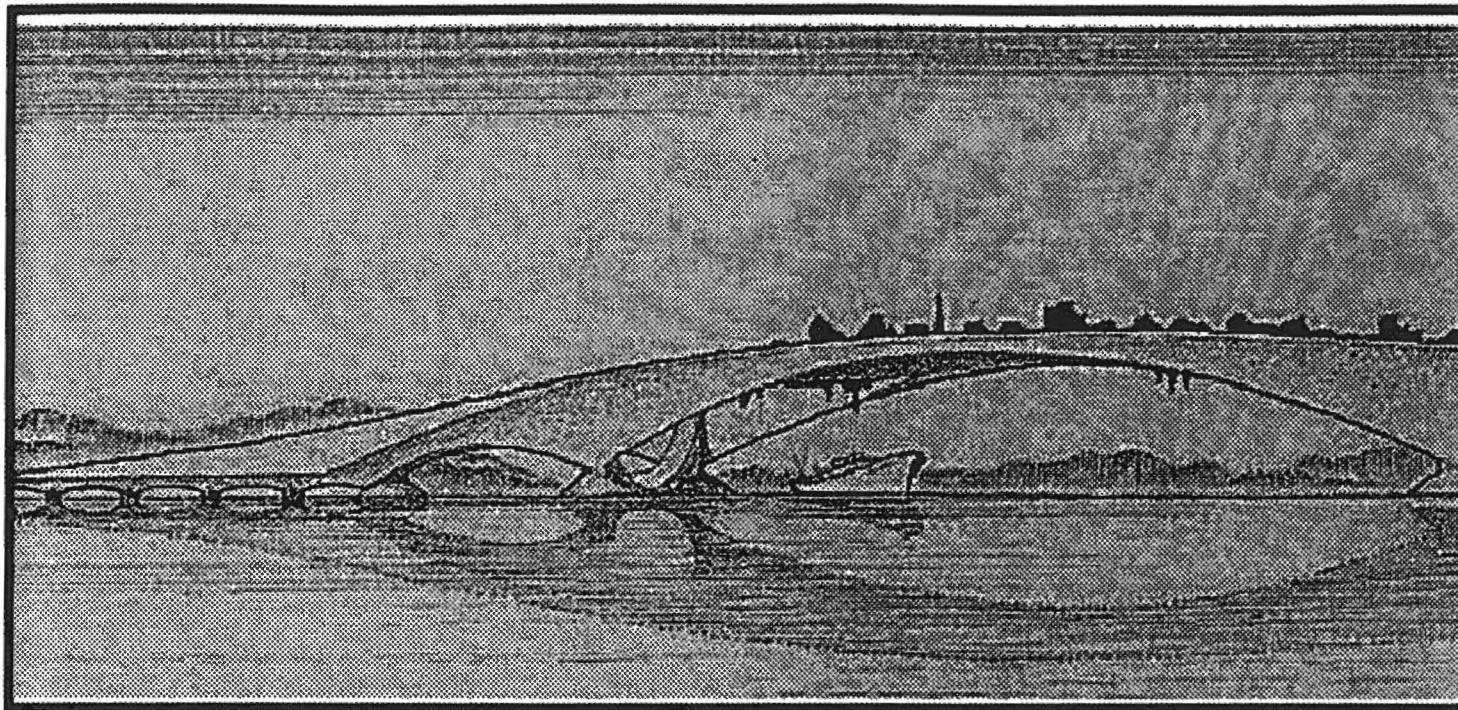
## Public Sign-in Sheet

NAME	REPRESENTING	ADDRESS
1. Norman Rolfe	SFTomorrow	2233 Larkin St #4 SF 94109
2. STEVE LOWE	WOCIA.	424 2ND ST 94607 835 8424
3. RICK WIEDERHORN	PORT OF OAKLAND	530 WATER ST, OAK. 94607
4. SANDRA THREFAU	Waterfront Coalition	6866 SARONI DR. O 94611
5. PAUL GULBENKIAN, CE	P.S.I.	430 TURK, #812 SAN FRAN 94102
6. Refael Muziz en ave	T4LI international	825 Battery St. SF. 94144
7. Pamela Markmann	citizen of Berkeley	Berkeley 94709 1428 Milvia Street
8.		
9.		
10.		

**TheWrightBridge.com**

**It's a matter of Wright vs Wrong.**

---



**Frank Lloyd Wright's**  
***Butterfly-wing Bridge***  
**a bridge for all reasons**

## A BRIDGE IN TIME FOR ALL TIME

In 1947 Frank Lloyd Wright presented the Bay Area with what some call the most artful bridge design: the Butterfly-wing.

Structural engineer T.Y. Lin and Wright's associate, architect Aaron G. Green, were members of a consortium that promoted this design as one alternative for a "second crossing" of the bay.

This "viaduct" design does not need "rock" for its foundation. Unlike a suspension bridge design, it loves mud! Using "post-tensioning" techniques, this bridge can easily sit on bay mud.

Wright's design is an excellent candidate for "base isolation" - a modern construction technique where the entire structure floats on its foundation.

Separation between the bridge and its foundation prevents strong earth-quake forces from affecting the bridge. This reduces the structural loads, which results in a less expensive bridge and foundation.

Wright incorporated railroad tracks as an integral part of the structure, using the rail as a structural back bone for the bridge in the middle of the bridge.

The most unique feature of Wright's design is the "public park" located at the top of the large ship-channel arch. This park would be a perfect spot for an inter-modal transit station with access to Treasure Island. This unique view park will attract tourists and residents alike will view the East Bay from this vantage point from a Frank Lloyd Wright bridge.

The graceful arches of Wright's design are a pleasant juxtaposition to the western suspension span catenary cables.

By a conservative estimate, more than 1.5 BILLION dollars' worth of post cards and memorabilia would be sold in the Bay Area if the Wright design were used for the eastern span of the Bay Bridge!

## MTC's Illogical Two Miles of O

As the MTC began the process of com replacement design for the East Bay s one thing was certain: "No viaducts a that included some towers would be a

Caltran's early design, one big on-ran no-no to the entire engineering pool.

Unfortunately, this single decision - tl and noteworthy" bridge design must b based on any rational principle. Not f process it became evident to bridge de only "one rock" that could provide a tower.

With only one "rock," there can only Multiple tower designs can't be done

MTC agreed to have one lane for cycl But the only provision for "rail" is to lane for a rail lane. This allows MTC designed for rail." But it will be polit reduce auto access to the bridge.

The single tower design also precludes running up the middle of the bridge.

The next step for MTC is to design an tower suspension bridge. This so-calle "causeway" is a "freeway on stilts." Rather than waste time on trying to de Caltrans viaduct design, MTC should bridge design evaluated for the entire

Architect Aaron G. Green, who worke design and still practices in San Fran Frank Lloyd Wright Foundation, wou refine Wright's design to this site. Wi participation, only a "caricature" of V result. With their help, the East Bay v brdge.